

Engineering Interpretations

Engineering Index Properties

This table gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey areas. Most soils have layers of contrasting properties within the upper 5 to 6 feet. Information in this table includes depth, USDA texture, Unified and AASHTO Classification, rock fragments larger than 3 inches, percentage passing designated sieves, liquid limit, and plasticity index.

Properties

DEPTH to the upper and lower boundaries of each layer is indicated.

TEXTURE is given in the standard terms used by the USDA. The terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. (Textural terms are defined in Chapter 4, Soil Survey Manual or in the glossary of most soil survey reports) If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

UNIFIED CLASSIFICATION SYSTEM classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content.

AASHTO CLASSIFICATION is the system adopted by the American Association of State Highway and Transportation Officials. It classifies soils according to those properties that affect roadway construction.

ROCK FRAGMENTS, 3 to 10 inches and greater than 10 inches in diameter, are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

PERCENTAGE (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven dry weight. The sieves, numbers 4, 10, 40, and 200, have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

LIQUID LIMIT AND PLASTICITY INDEX (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area, or from nearby areas, and on field examination.

This subsection includes:

- (a) **Engineering Index Properties**

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73055: Alred-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-7	GRV-SIL	GC-GM, GC	A-1, A-2	0-7	0-25	35-50	25-50	25-50	20-35	15-25	NP-10
	7-11	GR-SIL, GRV-SIL	GC-GM, GC	A-2, A-4	0-7	0-25	50-75	35-70	35-65	30-50	15-25	NP-10
	11-30	GRV-L, GRX-L, GRV-SIL, GRX- SIL	GC-GM, GC	A-2	0-10	0-40	25-50	15-50	15-50	10-35	20-35	5-15
	30-80	C, GR-C, CB-C	CH	A-7	0-2	0-15	80-100	70-100	65-95	60-95	50-80	25-45
Rueter-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	GRV-SIL	GC-GM, GM	A-1, A-2	0-7	0-25	35-50	25-50	25-50	20-35	15-25	NP-10
	4-17	GRV-SIL, GR-SIL	GM, GC-GM	A-2, A-4	0-7	0-25	50-75	35-70	35-65	30-50	15-25	NP-10
	17-32	GRV-L, CBV-SIL, GRV-SIL	GC-GM, GC	A-2	0-10	0-40	25-50	15-50	15-50	10-35	20-35	5-15
	32-43	GRV-CL, GRV- SICL, CBV-SIC, GRV-SIC, GRV-C	GC-GM, GC	A-2	0-10	0-40	35-50	25-50	25-50	20-40	35-50	15-25
	43-71	C, GR-C, CB-C, GRV-C, CBV-C	GC, CH	A-2, A-7	0-10	0-40	35-95	25-90	25-90	25-85	60-80	30-45
73139: Poynor-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	GR-SIL	GC-GM, GM	A-1, A-2	0-2	0-15	60-80	50-75	25-50	20-35	15-25	NP-10
	4-13	GRV-SIL, GR-SIL	GC-GM, GM	A-2, A-4	0-7	0-25	50-75	35-70	35-65	30-55	15-25	NP-10
	13-24	GRV-SICL, GRX- SIL	GC	A-2, A-6	0-10	0-40	30-50	20-50	20-50	15-45	25-35	10-15
	24-80	C, CB-C	CH	A-7	0-2	0-15	80-100	70-100	65-95	60-95	50-80	25-45

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73139: (cont) Clarksville-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-5	GR-SIL	GC, SC-SM, SC	A-1, A-2	0-2	0-15	60-80	50-75	25-50	20-40	15-25	NP-10
	5-8	GR-SIL, GRV-SIL	GC-GM, GC	A-2, A-4	0-7	0-25	50-75	35-70	30-65	25-50	15-25	NP-10
	8-18	GR-L, GR-SIL, GRV-L, GRV-SIL	GC-GM, GC	A-2, A-4, A-6	0-7	0-25	50-75	35-70	30-65	25-50	20-35	5-15
	18-42	GRV-L, GRV-SIL, GRV-CL, GRV- SICL, GRX-CL	GC, GW-GC, GC-GM	A-2, A-6	0-10	0-40	25-50	15-50	10-45	10-40	30-45	15-25
	42-65	C, GR-C, GRV-C	CL, CH, GC	A-2, A-7	0-7	0-25	35-95	25-90	25-85	25-80	40-60	20-30
Scholten-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-3	GR-SIL	GC-GM, GM	A-1, A-2	0-2	0-15	60-80	50-75	45-50	20-40	15-25	NP-10
	3-8	GRV-SIL, GR-SIL	GC-GM, GM	A-2, A-4	0-7	0-25	50-75	35-70	35-65	30-50	15-25	NP-10
	8-17	GRV-SICL, GRV- SIL	GC-GM, GC	A-2, A-4, A-6	0-7	0-25	35-50	25-50	25-50	20-45	20-40	5-20
	17-41	GRV-SIL, GRV- SICL, CBV-SIL, CBV-SICL, GRX- SIL	GC	A-2	0-7	0-25	25-50	15-50	15-50	10-35	25-35	10-15
	41-80	GR-SICL, GRV- SICL, GR-C, GRV-C, GR-SIC	CL, CH, GC	A-2, A-7	0-7	0-25	45-80	35-75	35-75	30-70	40-70	20-40
73140: Clarksville-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-6	GR-SIL	GC-GM, GM	A-1, A-2	0-2	0-15	60-80	50-75	25-50	20-35	15-25	NP-10
	6-13	GR-SIL, GRV-SIL	GC-GM, GM	A-2, A-4	0-7	0-25	50-75	35-70	30-65	25-50	15-25	NP-10
	13-21	GR-L, GR-SIL, GRV-L, GRV-SIL	GC-GM, GC	A-2, A-4, A-6	0-7	0-25	50-75	35-70	30-65	25-50	20-35	5-15
	21-43	GRV-L, GRV-SIL, GRV-CL, GRV- SICL, GRX-CL	GC	A-2, A-6	0-10	0-40	25-50	15-50	10-45	10-40	35-45	15-25
	43-66	C, GR-C, GRV-C	GC, CL, CH	A-2, A-7	0-7	0-25	35-95	25-90	25-85	25-80	40-60	20-30

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73140: (cont) Scholten-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-6	GRV-SIL	GC-GM, GM	A-1, A-2	0-7	0-25	35-50	25-50	25-50	20-35	15-25	NP-10
	6-13	GR-SIL, GRV-SIL	GM, GC-GM	A-2, A-4	0-7	0-25	50-75	35-70	35-65	30-50	15-25	NP-10
	13-34	GRV-CL, GRX-L, GRX-CL, GRV- SIL	GC-GM, GC	A-2, A-4, A-6	0-7	0-25	25-50	15-50	15-50	10-45	20-35	5-15
	34-58	GRV-CL, GRV- SIL, GRV-L, GRX-CL, GRX-L, GRX-SIL	GC	A-2	0-7	0-25	25-50	15-50	15-50	10-35	25-35	10-15
	58-80	GR-SICL, GR-CL, GR-C, GRV-CL, GRV-C	GC, CL, CH	A-2, A-7	0-10	0-40	45-80	35-75	35-75	30-70	35-70	20-40
73141: Firebaugh-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	SI	ML, CL-ML	A-4	0	0	90-100	85-100	80-100	75-95	15-25	NP-7
	4-8	SIL, SI	ML, CL-ML	A-4	0	0	90-100	85-100	80-100	75-95	15-25	NP-7
	8-21	SIL, SICL	CL	A-6	0	0	80-100	75-100	70-95	60-85	30-40	10-20
	21-36	GRV-SIL, GR-L, GRV-L, GRV- SICL	SC, GC, CL	A-6, A-2	0-7	0-25	35-80	25-75	25-65	25-60	30-40	10-20
	36-71	GR-CL, GR-C, CBV-C, CBX-C	GC, SC, CL, CH	A-2, A-7	0-10	0-40	25-80	15-75	15-70	15-65	40-60	20-30

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73142: Firebaugh-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	SIL	ML, CL-ML	A-4	0	0	90-100	80-100	70-100	70-95	15-25	NP-7
	4-11	SIL, SI	ML, CL-ML	A-4	0	0	90-100	80-100	70-100	70-95	15-20	NP-7
	11-28	SIL, SICL	CL	A-6	0	0	80-100	75-100	71-95	60-85	30-40	10-20
	28-39	GR-L, GRV-L, GR-SIL, GRV- SICL	GC, SC, CL	A-6, A-2	0-7	0-25	35-80	25-70	25-65	25-60	30-40	10-20
	39-71	GR-CL, GR-C, CBV-C, CBX-C	SC, CL, CH, GC	A-2, A-7	0-10	0-40	25-80	15-75	15-70	15-65	40-60	20-30
73143: Courtois-----	0-7	SIL	CL, CL-ML	A-6, A-4	0	0	80-100	75-100	65-95	55-80	20-35	5-15
	7-15	SIL, SICL, SIC	CL	A-6, A-7	0	0	85-100	85-100	70-95	60-90	30-45	10-25
	15-32	SICL, C, SIC, GR-CL, GRV-CL	SC, CL	A-7, A-2	0	0-25	50-100	35-100	35-95	30-95	40-50	20-30
	32-80	GR-C, C	CH	A-7	0	0-10	80-100	60-100	60-95	55-95	60-80	30-45
73144: Courtois-----	0-7	SIL	CL, CL-ML	A-6, A-4	0	0	80-100	75-100	65-95	55-80	20-35	5-15
	7-15	SICL, SIC, SIL	CL	A-6, A-7	0	0	85-100	85-100	70-95	60-90	30-45	10-25
	15-32	SICL, C, SIC, GR-CL, GRV-CL	SC, CL	A-7, A-2	0	0-25	50-100	35-100	35-95	30-95	40-50	20-30
	32-80	GR-C, C	CH	A-7	0	0-10	80-100	60-100	60-95	60-95	60-80	30-45
73145: Crider-----	0-8	SIL	CL, CL-ML	A-4, A-6	0	0	100	95-100	90-100	85-100	20-35	5-15
	8-32	SIL, SICL	CL	A-6	0	0	100	95-100	90-100	85-100	30-40	10-15
	32-74	SICL, C, SIC	CL, CH	A-6, A-7	0	0	90-100	85-100	70-100	60-100	35-55	15-25

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73146: Marquand-----	0-5	SIL	ML, CL-ML	A-4	0	0	100	95-100	90-100	85-100	15-25	NP-10
	5-8	SIL, SI	ML, CL-ML	A-4	0	0	100	95-100	90-100	85-100	15-25	NP-10
	8-22	SIL, SICL	CL	A-6	0	0	100	95-100	90-100	85-100	30-40	10-20
	22-43	SIL, SICL	CL	A-6	0	0	95-100	85-100	80-100	70-100	30-40	10-20
	43-80	L, SIL, CL, SICL	CL	A-6, A-7	0	0-2	85-100	75-100	70-100	55-95	30-45	15-25
73147: Fourche-----	0-6	SIL	CL-ML, CL	A-4	0	0	100	95-100	90-100	85-100	20-30	5-10
	6-30	SIL, SICL	CL	A-6	0	0	100	95-100	90-100	85-100	30-40	10-20
	30-54	SIL, SICL, SIC	CL	A-6, A-7	0	0-2	85-100	85-100	75-100	60-95	30-45	10-25
	54-66	SIC, C	CH	A-7	0	0-2	85-100	75-100	70-100	60-95	50-70	25-40
73148: Jonca-----	0-5	SIL	ML, CL-ML	A-4	0	0	100	95-100	85-95	65-90	15-25	NP-5
	5-12	SIL	ML, CL-ML	A-4	0	0	100	95-100	85-100	65-90	15-25	NP-5
	12-32	SIL, L, SICL	CL	A-6	0	0	100	95-100	85-100	65-90	30-40	10-15
	32-52	SL, FSL, L	SC-SM, CL-ML, CL, SC	A-4, A-6	0	0	95-100	95-100	85-95	45-85	20-35	5-15
	52-62	CL, L	SC-SM, CL-ML, CL, SC	A-4, A-6	0	0-7	90-100	75-95	60-85	40-80	20-35	5-15
	---	BR			---	---	---	---	---	---	---	---
73149: Caneyville-----	0-4	SIL	CL, CL-ML	A-4, A-6	0	0-2	90-100	85-100	75-100	60-95	20-35	5-15
	4-11	SIC, C, SICL	CL, CH	A-7	0	0-2	95-100	85-100	75-100	65-100	40-70	20-35
	11-29	SIC, C, SICL	CL, CH	A-7	0	0-2	95-100	85-100	75-100	65-100	40-70	20-35
	---	BR			---	---	---	---	---	---	---	---
Bucklick-----	0-5	SIL	CL	A-6, A-4	0	0-2	90-100	85-100	75-100	60-95	20-35	5-15
	5-30	SICL, SIC, C	CH, CL	A-6	0	0	90-100	85-100	75-100	65-100	30-60	10-30
	30-46	SIC, C, GR-C	CL, CH, SC	A-7	0-7	0-7	50-100	50-100	50-100	45-100	40-70	20-40
	---	BR			---	---	---	---	---	---	---	---

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
					>10 inches	3-10 inches	4	10	40	200		
			Unified	AASHTO	Pct	Pct						
73150: Caneyville-----	In				Pct	Pct					Pct	
	0-8	SIL	CL, CL-ML	A-4, A-6	0	0-2	90-100	85-100	75-100	60-95	20-35	5-15
	8-18	SIC, C, SICL	CL	A-7	0	0-2	95-100	85-100	75-100	65-95	25-50	15-30
	18-30	SIC, C, SICL	CL, CH	A-7	0	0-2	95-100	85-100	75-100	65-95	40-70	20-35
	---	BR			---	---	---	---	---	---	---	---
Bucklick-----	0-3	SIL	CL	A-4, A-6	0	0-2	90-100	85-100	75-100	60-95	20-35	5-15
	3-16	SICL, SIC, C	CL, CH	A-6	0	0	90-100	85-100	75-100	65-100	30-60	10-30
	16-45	SIC, C, GR-C	SC, CL, CH	A-7	0-7	0-7	50-100	50-100	50-100	45-100	40-70	20-40
	---	BR			---	---	---	---	---	---	---	---
73151: Caneyville-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	SIL	CL, CL-ML	A-4, A-6	0	0-2	90-100	85-100	75-100	60-95	20-35	5-15
	4-11	SIC, C, SICL	CL, CH	A-7	0	0-2	95-100	85-100	75-100	65-100	40-70	20-35
	11-31	SIC, C, SICL	CL, CH	A-7	0	0-2	95-100	85-100	75-100	65-100	40-70	20-35
	---	BR			---	---	---	---	---	---	---	---
Gasconade-----	0-3	SIC	CL, CH	A-7, A-6	0-5	0-10	90-95	85-90	80-85	75-80	35-60	10-30
	3-16	CBV-CL, GRV-C, GRV-SIC, CBV- SICL	GC	A-7, A-2	0-25	15-50	35-60	25-50	25-50	25-45	40-70	20-35
	---	BR			---	---	---	---	---	---	---	---
Bucklick-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-6	SIL	CL	A-4, A-6	0	0-2	90-100	85-100	75-100	60-95	20-35	5-15
	6-31	SICL, SIC, C	CH, CL	A-6	0	0	90-100	85-100	75-100	65-100	30-60	10-30
	31-47	SIC, C, GR-C	SC, CL, CH	A-7	0-7	0-7	50-100	50-100	50-100	45-100	40-70	20-40
	---	BR			---	---	---	---	---	---	---	---

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73152: Lily-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-3	SIL	ML, CL-ML	A-4	0	0-5	90-100	80-100	80-95	65-85	10-20	NP-5
	3-9	FSL, SIL	SM, ML, CL-ML	A-4	0	0-5	75-100	70-100	60-95	35-80	10-20	NP-5
	9-25	CL, L, GR-L	SC, CL	A-6	0	0-10	75-100	70-100	55-95	35-80	25-35	10-15
	---	BR			---	---	---	---	---	---	---	---
Ramsey-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-3	FSL	SM, SC-SM	A-4	0	0-10	80-100	75-100	60-90	35-50	10-20	NP-5
	3-7	FSL, SL	SM, ML, CL-ML	A-4	0	0-10	75-100	70-100	55-95	35-80	10-20	NP-5
	7-17	GR-SL, FSL, SL	SM, SC-SM	A-2, A-4	0	0-10	70-95	60-90	45-80	20-45	15-35	NP-10
	---	BR			---	---	---	---	---	---	---	---
73153: Lily-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	FSL	SM, SC-SM	A-4	0	0-5	80-100	75-100	60-80	35-50	10-20	NP-5
	4-11	FSL, SIL	SM, ML, CL-ML	A-4	0	0-5	75-100	70-100	55-95	35-80	10-20	NP-5
	11-28	CL, L, GR-L	SC, CL	A-6	0	0-10	75-100	70-100	55-95	35-80	25-35	10-15
	---	BR			---	---	---	---	---	---	---	---
Ramsey-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-3	FSL	SM, SC-SM	A-4	0	0-10	80-100	75-100	60-90	35-50	10-20	NP-5
	3-7	FSL, SL	SM, SC-SM, ML, CL-ML	A-4	0	0-10	75-100	70-100	55-95	35-80	10-20	NP-5
	7-17	GR-SL, FSL, SL	SC-SM, SM	A-2, A-4	0	0-10	70-95	60-90	45-80	20-45	15-35	NP-10
	---	BR			---	---	---	---	---	---	---	---

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73154: Ramsey-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-3	FSL	SM, SC-SM	A-4	0	0-10	80-100	75-100	60-90	35-50	10-20	NP-5
	3-7	FSL, SL	SM, SC-SM, ML, CL-ML	A-4	0	0-10	75-100	70-100	55-95	35-80	10-20	NP-5
	7-17	GR-SL, FSL, SL	SM, SC-SM	A-2, A-4	0	0-10	70-95	60-90	45-80	20-45	15-35	NP-10
	---	BR			---	---	---	---	---	---	---	---
Rock outcrop----	---				---	---	---	---	---	---	---	---
73155: Gasconade-----	0-4	SIC	CL, CH	A-7, A-6	0-5	0-10	90-95	85-90	80-85	75-80	35-60	10-30
	4-13	CBV-CL, GRV-C, GRV-SIC, FLV- SIC	GC	A-6, A-7, A-2	0-25	15-50	35-60	25-50	25-50	25-40	40-70	20-35
	---	BR			---	---	---	---	---	---	---	---
Rock outcrop----	---	BR			---	---	---	---	---	---	---	---
73156: Alred-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-6	GRV-SIL	GC-GM, GC	A-1, A-2	0-7	0-25	35-50	25-50	25-50	20-35	15-25	NP-10
	6-11	GR-SIL, GRV-SIL	GC-GM, GC	A-4, A-2	0-7	0-25	50-75	35-70	35-65	30-50	15-25	NP-10
	11-31	GRV-L, GRX-L, GRV-SIL, GRX- SIL	GC, GC-GM	A-2	0-10	0-40	25-50	15-50	15-50	10-35	20-35	5-15
	31-79	C, GR-C, CB-C	CH	A-7	0-7	0-15	80-100	70-100	65-95	60-95	50-80	25-45
Gepp-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-6	GRV-SIL	GC-GM, GC	A-1, A-2	0-7	0-25	35-50	25-50	25-50	20-35	15-25	NP-10
	6-12	GR-CL, GR-SICL, SIC, C	SC, CL, CH	A-6, A-7	0	0-7	60-100	50-100	45-100	40-95	35-65	15-30
	12-67	C	CH	A-7	0-2	0-10	85-100	75-100	70-100	65-95	60-80	30-45

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
73157: Captina-----	0-5	SIL	CL-ML, CL	A-4	0	0	95-100	95-100	90-100	75-95	15-25	NP-10
	5-25	SIL, SICL	CL	A-6	0	0	90-100	90-100	85-100	80-95	30-40	10-20
	25-31	GR-SIL, GRV- SICL, SIL, GRV-SIL, GRX- SIL, SICL	GC, SC, CL	A-2, A-6	0	0-25	30-100	25-100	20-100	15-95	30-40	10-20
	31-78	GR-C, CB-CL, CBV-C, GRV-C, GR-SIC, GRV- SIC	GC, SC, CL, CH	A-2, A-7	0	0-25	45-80	35-75	35-75	30-70	40-70	20-35
74644: Deible-----	0-7	SIL	CL, CL-ML	A-4	0	0	90-100	85-100	80-100	75-95	20-35	5-15
	7-16	SIL	CL	A-6, A-4	0	0	85-100	75-100	65-100	65-95	20-35	5-15
	16-40	SICL, SIC	CL, CH	A-7, A-6	0	0	100	95-100	90-100	80-95	40-60	20-30
	40-65	SIL, CL, SICL	CL	A-7, A-6	0	0	85-100	75-100	70-100	60-95	30-45	15-25
74645: Higdon-----	0-8	SIL	CL	A-4	0	0	100	100	90-100	85-95	20-30	5-10
	8-13	SIL	CL	A-4	0	0	100	100	90-100	85-95	25-30	5-10
	13-27	SICL	CL	A-6	0	0	100	100	95-100	95-100	30-45	15-25
	27-67	SICL, SIL	CL	A-6	0	0	95-100	95-100	90-100	85-95	30-40	10-20
74646: Cornwall-----	0-5	SIL	CL, CL-ML	A-4	0	0	85-100	80-100	80-100	75-95	20-30	5-10
	5-17	SIL, SICL	CL	A-6	0	0	85-100	80-100	80-100	75-95	30-40	10-20
	17-39	SIL, SICL, GR- SIL, GRV-SIL	CL, SC, GC	A-6, A-2	0-2	0-15	30-100	25-100	25-100	20-95	30-40	10-20
	39-60	GRV-SICL, GR- SICL, GRX-C, GRX-CL, SICL, GRV-C	CL, GC, SC	A-7, A-2, A-6	0-2	0-15	30-80	20-75	20-75	15-70	35-50	10-25

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
74647: Cornwall-----	0-6	SIL	CL, CL-ML	A-4	0	0	85-100	80-100	80-100	75-95	20-30	5-10
	6-34	SICL	CL	A-6	0	0	85-100	80-100	80-100	75-95	30-40	10-20
	34-52	SIL, SICL, GR- SIL, GRV-SIL	CL, SC, GC	A-6, A-2	0-2	0-15	30-100	25-100	20-100	20-100	30-40	10-20
	52-60	GR-SICL, GRX-C, GRV-SICL, GRX- CL, SICL, GRV- C	CL, GC, SC	A-7, A-2, A-6	0-2	0-15	30-80	20-75	20-75	15-70	35-50	10-25
74648: Aslinger-----	0-4	SIL	CL, CL-ML	A-4	0	0	95-100	90-100	80-95	70-90	20-30	5-10
	4-8	SIL	CL, CL-ML	A-4	0	0	95-100	90-100	80-95	60-90	20-30	5-10
	8-21	SIL, SICL	CL	A-6	0	0	80-100	75-100	70-100	60-95	25-40	10-20
	21-29	GR-L, GR-SIL, GRV-L, GRV- SIL, GRX-L, GRX-SIL	SC, GC, CL	A-2, A-6	0-2	0-15	30-85	25-75	20-70	15-65	20-35	5-15
	29-55	GR-L, GR-CL, GRV-L, GRV-CL	GC, SC, CL	A-2, A-6	0-2	0-15	35-80	25-75	25-70	20-65	25-40	10-25
	55-70	GR-SICL, GR-C, GRV-CL, GRX-C, CBX-C	GC, SC	A-2, A-6, A-7	0-10	0-40	35-65	25-60	25-55	20-50	35-60	15-35

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
74649: Aslinger-----	0-3	SIL	CL, CL-ML	A-4	0	0	95-100	90-100	80-95	70-90	20-30	5-10
	3-8	SIL	CL, CL-ML	A-4	0	0	95-100	90-100	80-95	60-90	20-30	5-10
	8-20	SIL, SICL	CL	A-6	0	0	80-100	75-100	70-100	60-95	25-40	10-20
	20-39	GR-L, GR-SIL, GRV-L, GRV- SIL, GRX-L, GRX-SIL	GC, SC, CL	A-2, A-6	0-2	0-15	30-85	25-75	20-70	15-65	20-35	5-15
	39-52	GR-L, GR-CL, GRV-L, GRV-CL	GC, SC, CL	A-6, A-2	0-2	0-15	35-80	25-75	25-70	20-65	25-40	10-25
	52-80	GR-SICL, GR-C, GRV-CL, GRX-C, CBX-C	GC, SC	A-2, A-6, A-7	0-10	0-40	35-65	25-60	25-55	20-50	35-60	15-35
Waben-----	0-6	GR-SIL	GC-GM, CL-ML	A-4	0-5	0-10	60-90	50-75	50-70	50-65	15-25	NP-10
	6-15	GR-SIL, GRV-L, GRV-SIL	GC-GM, GC	A-1, A-2, A-4	0-5	0-25	30-80	25-50	25-50	20-40	20-30	5-10
	15-54	GRV-L, GRV-SIL	GC, GC-GM	A-2, A-6	0-5	0-40	30-60	25-50	25-50	20-40	25-35	5-15
	54-80	GRV-SCL, GRV- CL, GRX-CL	GC, GC-GM	A-2	0-5	0-40	30-60	25-50	25-50	20-40	30-45	10-25
74650: Higdon-----	0-5	SIL	CL, CL-ML	A-4	0	0	95-100	95-100	90-100	75-95	20-30	5-10
	5-16	SIL	CL, CL-ML	A-4	0	0	95-100	95-100	90-100	75-95	20-30	5-10
	16-33	SIL, SICL	CL	A-6	0	0	95-100	95-100	90-100	70-95	30-40	10-20
	33-80	L, SIL, CL, SICL	CL	A-6	0	0	85-100	75-100	70-100	65-95	25-40	10-20
74684: Racoon-----	0-4	SIL	CL	A-4	0	0	90-100	90-100	85-95	80-95	20-35	5-15
	4-26	SIL	CL	A-4	0	0	90-100	90-100	85-95	80-95	20-35	5-15
	26-58	SIL, CL, SICL	CL	A-6	0	0	90-100	90-100	80-100	60-95	30-40	10-20
	58-80	L, SIL	CL	A-6	0	0	90-100	90-100	80-100	60-95	25-35	10-15

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
75381: Bearthicket-----	0-6	SIL	CL-ML, CL	A-4	0	0	100	95-100	95-100	75-100	20-30	5-10
	6-19	SIL	CL-ML, CL	A-4	0	0	100	95-100	95-100	75-100	20-30	5-10
	19-45	SICL, SIL	CL	A-6	0	0	95-100	95-100	90-100	70-100	25-35	10-15
	45-64	L, SIL	CL-ML, CL	A-4, A-6	0	0	95-100	90-100	90-100	65-100	20-35	5-15
	64-80	COSL, FSL, L, SL, GR-SL, GR- FSL, GRV-SL	SC-SM, SC, CL-ML, CL	A-2, A-4	0	0-10	60-100	50-100	50-100	20-60	15-30	5-15
75395: Jamesfin-----	0-6	SIL	CL, CL-ML	A-4	0	0	95-100	95-100	90-100	75-100	20-30	5-10
	6-15	SIL	CL, CL-ML	A-4	0	0	95-100	95-100	90-100	75-100	20-30	5-10
	15-53	SIL	CL	A-6	0	0	95-100	95-100	90-100	75-100	25-35	10-15
	53-62	FSL, L, SIL	CL, CL-ML	A-4	0	0	95-100	90-100	75-100	50-100	20-35	5-15
75408: Secesh-----	0-4	SIL	CL-ML, CL	A-4	0	0	80-100	75-100	65-95	50-90	20-30	5-10
	4-10	L, SIL	CL-ML, CL	A-4	0	0	80-100	75-100	65-95	50-90	20-30	5-10
	10-26	L, SIL, GR-L, GR-SIL	CL	A-6	0	0-10	70-100	60-90	55-90	50-80	25-40	10-20
	26-36	L, SCL, GR-L, GRV-SL	SC	A-2, A-6	0-7	0-25	50-100	35-90	25-80	15-50	25-35	10-15
	36-80	GRV-SL, GRV- COSL, GRX- COSL, GRX-SCL	GC, SC	A-2	0-7	0-40	25-55	15-50	10-40	5-30	20-35	5-15
75409: Relfe-----	0-7	SL	SC-SM, SC	A-4, A-2	0-1	0-10	75-100	75-100	45-65	20-40	15-25	5-10
	7-64	GRV-LCOS, GRV- COS, GRX-S, GRX-LCOS	GW, GW-GM, SP, SP-SM	A-2, A-1	0-7	0-40	20-80	15-50	5-35	0-10	15-25	NP-10

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
75410: Relfe-----	0-6	GRV-COSL	SC-SM	A-2	0	0-10	60-80	50-75	25-50	10-35	15-25	5-10
	6-64	GRV-COS, GRV- LCOS, GRX-COS, GRX-LCOS	GP, GP-GM, SP-SM, SP	A-1, A-2	0-7	0-40	20-80	15-50	5-35	0-10	15-25	NP-10
75411: Tilk-----	0-8	GRV-SL	GC-GM, GP-GC	A-2	0	0-15	30-90	15-50	10-35	5-35	20-25	5-10
	8-16	GRV-L, CBV-L, GRX-L, GRV- COSL	SC-SM, GC-GM	A-2	0	0-15	30-90	15-50	10-45	5-35	20-25	5-10
	16-47	GRV-SL, CBV-L, GRX-L, GRV-L, GRX-SL	GP-GC, GC-GM, SC, SC-SM, GC	A-2	0-5	0-40	30-90	15-50	10-45	5-35	20-30	5-15
	47-70	GRX-LCOS, CBX- LCOS, GRV- COSL, GRX- COSL, CBX- COSL, GRX-SL	GW-GC, SW-SC	A-2	0-30	0-40	30-90	15-50	10-25	5-10	20-30	5-15
75416: Gladden-----	0-5	L	CL, CL-ML	A-4	0	0	90-100	80-100	70-95	50-75	20-30	5-10
	5-26	L, SIL	CL, CL-ML	A-4	0	0	90-100	80-100	70-100	60-80	20-30	5-10
	26-58	SL, FSL, L	CL, CL-ML, SC, SC-SM	A-2, A-4	0	0	90-100	80-100	50-95	30-70	15-30	NP-10
	58-77	COS, S, LS	SM, SC-SM, SP-SM	A-1, A-2, A-3	0	0	80-100	75-100	5-85	5-35	10-20	NP-5

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
77000: Killarney-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-5	CBV-SIL	GC-GM, GC	A-2, A-4	0-10	20-60	50-70	35-60	30-55	25-50	15-25	NP-10
	5-16	GR-SIL, CBV- SIL, GRV-SIL	CL, GC, GC-GM	A-4	0-10	0-60	50-90	45-85	40-75	35-65	15-25	NP-10
	16-32	CBV-SIL, GRV- SIL	SC-SM, SC, GC, GC-GM	A-4, A-2, A-6	0-10	0-60	40-70	35-60	30-55	25-50	20-35	5-15
	32-48	GR-L, GRV-SIL, GRV-L, CBV-L, CBV-SIL, GRX- SIL	SC, GC	A-2, A-6	0-10	0-60	25-80	20-70	15-65	15-50	25-35	10-15
	48-80	GR-L, GR-CL, GRV-L, GRV-CL, CBV-L	SC, CL, GC	A-2, A-6, A-7	0	0-40	40-90	35-85	25-75	20-65	25-45	10-25
Frenchmill-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-6	CBV-SIL	SC-SM, SC	A-2, A-4	0-10	20-60	50-70	35-60	30-55	20-50	15-25	NP-10
	6-19	GR-SIL, GRV- SIL, CBV-L	SC-SM, SC, CL	A-2, A-4	0-10	0-60	50-95	45-85	35-75	30-70	15-25	NP-10
	19-27	CBV-SIL, GRV- SIL	GC-GM, GC, SC-SM, SC	A-2, A-4, A-6	0-10	0-60	40-70	35-60	30-55	25-50	20-35	5-15
	27-58	GRV-L, CBV-L, GRV-CL, CBX-CL	SC, GC	A-2, A-6	0-10	0-60	40-70	35-60	25-55	20-50	25-40	10-20
	58-80	SCL, CL, GR- SCL, GR-CL, CB-CL	SC, CL	A-7, A-6, A-2	0-10	0-40	65-100	60-100	35-85	30-80	30-45	10-25
77001: Loughboro-----	0-4	SIL	CL	A-4	0	0	100	100	85-95	75-95	20-30	5-15
	4-12	SIL	CL	A-4	0	0	100	100	85-95	75-95	20-30	5-15
	12-17	SICL	CL	A-7	0	0	100	90-100	80-100	65-95	35-50	15-25
	17-45	SICL, SIC	CH, CL	A-7	0	0-7	100	90-100	80-100	65-95	45-60	20-35
	45-67	SIL, SICL	CL	A-7	0	0-7	100	85-100	80-100	65-95	35-50	20-25

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
77002: Delassus-----	0-3	SIL	CL-ML, CL	A-4	0	0-10	85-100	80-100	75-100	65-90	15-25	NP-10
	3-7	SIL	CL, CL-ML	A-4	0	0-10	85-100	80-100	75-100	65-90	20-30	5-10
	7-31	SIL, L, SICL	CL	A-6	0	0-10	85-100	80-100	65-100	60-95	25-40	10-20
	31-61	SIL, L, SL, GR- COSL, CB-SIL	SC-SM, CL, SC, CL-ML	A-6, A-4	0	0-25	65-100	60-95	40-90	35-80	20-35	5-15
	---	BR			---	---	---	---	---	---	---	---
77003: Delassus-----	0-8	GR-SIL	CL, CL-ML	A-4	0	0-15	75-100	70-90	65-90	55-80	15-25	NP-10
	8-13	SIL, GR-SIL	CL-ML, CL	A-4	0	0-15	75-100	70-90	65-90	55-80	20-30	5-10
	13-20	L, SIL, GR-L, GR-SIL	CL	A-6	0	0-15	75-100	70-90	55-90	50-85	25-40	10-20
	20-59	SIL, GR-L, SL, GR-COSL, GR- SIL, CBV-L	CL, SC, SC- SM, CL-ML	A-6, A-2, A-4	0-10	0-40	40-90	35-80	25-75	20-65	20-35	5-15
	59-78	CB-L, GRV-SIL, GR-SICL, CBV- SICL	GC, SC	A-6, A-2	0-10	0-50	40-90	35-80	30-65	25-50	25-40	10-20
77004: Irondale-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	GR-SIL	CL, SC, SC- SM, CL-ML	A-4	0-10	5-15	65-95	60-85	45-80	40-75	15-25	NP-10
	4-9	GR-SIL, GRV- SIL, CB-SIL, CBV-SIL	CL, CL-ML, SC, SC-SM	A-4	0-10	5-50	50-95	45-85	40-80	35-75	15-25	NP-10
	9-15	GRV-SIL, CBV- SIL	GC-GM, GC, SC-SM, SC	A-2, A-6	0-10	15-50	40-70	35-60	30-55	30-50	20-35	5-15
	15-22	GRV-CL, GRV-L, CBV-SICL	GC	A-2, A-6	0-10	15-50	40-70	25-60	25-55	20-50	30-40	10-20
	---	BR			---	---	---	---	---	---	---	---

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
77005: Hassler-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-6	SIL	CL, CL-ML	A-4	0-2	0-10	95-100	85-100	70-85	60-80	20-30	5-10
	6-11	SIL, GR-SIL, CB-SIL	CL-ML, CL	A-4	0-5	0-25	80-100	70-100	60-95	50-90	20-30	5-10
	11-20	L, SIL, SICL, CB-L, GR-CL, GR-SIL	CL	A-6	0-5	0-25	80-100	70-100	60-95	50-90	30-40	10-20
	20-34	GRV-L, GR-L, CBV-L	SC	A-2, A-6	0-10	0-50	55-95	40-85	30-75	20-50	30-40	10-20
	34-42	COSL, BY-COSL, GR-COSL, CB- COSL, STV-COSL	SC	A-2	0-40	0-40	55-100	40-85	25-50	15-35	25-35	10-15
	---	BR			---	---	---	---	---	---	---	---
Syenite-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	SIL	CL, CL-ML	A-4	0-2	0-10	95-100	85-100	70-85	50-80	20-30	5-10
	4-9	SIL, CB-SIL, GR-SIL	CL, CL-ML	A-4	0-5	0-25	95-100	85-100	70-85	50-80	20-30	5-10
	9-19	L, SIL, SICL, CB-L, GR-CL, GR-L	CL	A-6	0-5	0-25	80-100	70-100	60-95	50-90	30-40	10-20
	19-29	CB-L, L, GR-L, CBV-L, BY-L	SC	A-2, A-6	0-15	0-50	60-95	50-85	30-75	20-50	25-35	10-20
	---	BR			---	---	---	---	---	---	---	---
77006: Roselle-----	0-7	SIL	CL, CL-ML	A-4	0	0-5	85-100	85-100	80-95	65-85	20-30	5-10
	7-15	SIL, SICL	CL	A-6	0	0-5	85-100	85-100	80-95	65-90	25-40	10-25
	15-57	L, CL, CB-L	CL	A-6	0-5	0-25	85-100	85-100	65-90	50-65	25-35	10-15
	57-80	COSL, CB-COSL	SC	A-2, A-6	0-5	0-25	85-100	85-95	40-60	20-40	30-40	10-20

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
77007: Taumsauk-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-5	CB-SIL	CL, CL-ML, SC, SC-SM	A-4	0-5	7-40	65-95	60-85	45-80	40-75	15-25	NP-10
	5-17	CBX-SICL, GRV- SIL, GRV-CL, GRV-SICL, CBV- SIL, CBV-SICL	GC, SC	A-6, A-2, A-7	0-15	15-50	40-70	35-60	30-55	30-50	25-45	10-25
	---	BR			---	---	---	---	---	---	---	---
Irondale-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-5	CBV-SIL	GC, SC-SM, GC-GM, SC	A-2, A-4	0-10	20-50	40-70	35-60	30-55	25-50	15-25	NP-10
	5-10	GRV-SIL, GR- SIL, CB-SIL, CBV-SIL	CL-ML, GC, CL, GC-GM	A-4	0-10	5-50	50-90	45-85	40-80	35-75	15-25	NP-10
	10-17	GRV-SIL, CBV- SIL	SC-SM, GC-GM, SC, GC	A-2, A-6	0-10	15-50	40-70	35-60	30-55	30-50	20-35	5-15
	17-35	GRV-CL, GRV-L, CBV-SICL	GC	A-2, A-6	0-10	15-50	40-70	25-60	25-55	20-50	30-40	10-20
	---	BR			---	---	---	---	---	---	---	---
Rock outcrop----	---	UWB			---	---	---	---	---	---	---	---

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES

Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
					>10 inches	3-10 inches	4	10	40	200		
			Unified	AASHTO	Pct	Pct						
77008: Hassler-----	In				Pct	Pct					Pct	
	0-1	SPM			---	---	---	---	---	---	---	---
	1-3	SIL	CL, CL-ML	A-4	0-2	0-10	95-100	85-100	70-85	60-80	20-30	5-10
	3-9	SIL, GR-SIL, CB-SIL	CL, CL-ML	A-4	0-5	0-25	80-100	70-100	60-95	50-90	20-30	5-10
	9-24	L, SIL, SICL, CB-L, GR-CL, GR-SIL	CL	A-6	0-5	0-25	80-100	70-100	60-95	50-90	30-40	10-20
	24-31	GR-L, GRV-L, CBV-L	SC	A-2, A-6	0-10	0-50	55-95	40-85	30-75	20-50	30-40	10-20
	31-48	COSL, BY-COSL, CB-COSL, GR- COSL, STV-COSL	SC	A-2	0-40	0-40	55-100	40-85	25-50	15-30	25-35	10-15
	---	BR			---	---	---	---	---	---	---	---
77009: Trackler-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-2	SIL	CL-ML, CL	A-4	0-3	0-5	95-100	90-100	85-100	80-95	20-30	5-10
	2-8	SIL	CL-ML, CL	A-4	0-3	0-5	95-100	90-100	85-100	80-95	20-30	5-10
	8-14	SIL, SICL, GR- SICL	CL	A-6	0-3	3-10	80-100	75-100	70-100	65-100	30-40	10-20
	14-23	GR-SIL, CL, CB- SIL, GR-CL, SICL, CB-SICL, GR-SICL, GR-C	CL, GC, SC	A-6, A-7	0-10	10-25	60-100	50-95	45-95	40-90	30-50	10-25
	23-45	CBV-L, STX-L, GRV-COSL, GRV- L BR	SC, SP-SC, GP-GC, GC	A-2	40-75	15-30	25-70	20-60	5-40	5-30	20-35	10-20
	---				---	---	---	---	---	---	---	---

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
77010: Trackler-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-4	SIL	CL, CL-ML	A-4	0-3	0-5	95-100	90-100	85-100	80-95	20-30	5-10
	4-8	SIL	CL-ML, CL	A-4	0-3	0-5	95-100	90-100	85-100	80-95	20-30	5-10
	8-13	SIL, SICL, GR- SICL	CL	A-6	0-3	0-10	80-100	75-100	70-100	65-95	30-40	10-20
	13-25	GR-SIL, CB-SIL, GR- CL, CL, GR- SICL, CB-SICL, SICL, GR-C	CL, GC, SC	A-6, A-7	0-10	5-25	60-100	50-95	45-95	40-90	30-50	10-25
	25-44	GRV-COSL, GRX- COSL, CBV-L, GRV-L	GC, SP-SC, GP-GC, SC	A-2	2-15	15-30	25-70	20-60	5-40	5-30	20-35	10-20
	---	BR			---	---	---	---	---	---	---	---
Irondale-----	0-1	SPM			---	---	---	---	---	---	---	---
	1-5	GR-SIL	GC, GC-GM, CL, CL-ML	A-4	0-2	0-15	65-95	60-85	45-80	40-75	15-25	NP-10
	5-11	GR-SIL, GRV-SIL, CB-SIL, CBV-SIL	CL, GC-GM, GC, CL-ML	A-4	0-10	5-50	50-95	45-85	40-80	35-75	15-25	NP-10
	11-15	GRV-SIL, CBV-SIL	SC-SM, GC-GM, SC, GC	A-2, A-6	0-10	15-50	40-70	35-60	30-55	30-50	20-35	5-15
	15-24	GRV-CL, GRV-L, CBV-SICL	GC	A-2, A-6	0-10	15-50	40-70	25-60	25-55	20-50	30-40	10-20
	---	BR			---	---	---	---	---	---	---	---
78250: Skrainka-----	0-6	SIL	CL	A-6	0	0-5	95-100	85-100	85-100	75-95	25-35	10-15
	6-33	CL, SICL, C, SIC	CH, CL	A-7	0	0-5	95-100	85-100	85-100	75-95	40-60	20-30
	33-57	L, CL	CL	A-6	0	0-5	95-100	90-100	80-95	60-75	25-40	10-20
	57-80	COSL, SL, FSL	SC-SM, SC, CL	A-4	0	0-5	95-100	90-100	65-80	35-50	15-30	NP-10

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ENGINEERING INDEX PROPERTIES
Madison County, Missouri: Detailed Soil Map Legend

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage Passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
78251: Skrainka-----	0-4	L	CL	A-6	0-10	0-5	80-100	75-95	65-80	50-65	25-35	10-15
	4-31	CL, SICL, C, SIC	CH, CL	A-7	0	0-5	95-100	85-100	85-100	75-95	40-60	20-30
	31-54	L, CL	CL	A-6	0	0-5	95-100	90-100	80-95	60-75	25-40	10-20
	54-80	COSL, SL, FSL	SC-SM, SC, CL	A-4	0	0-5	95-100	90-100	65-80	35-50	15-30	NP-10
99001: Water-----	---	---	---	---	---	---	---	---	---	---	---	---
99006: Udipsamments----	0-60	LFS			---	---	---	---	---	---	---	---
99008: Udorthents-----	0-60	VAR			---	---	---	---	---	---	0-14	---
Dumps-----	0-60	VAR			---	---	---	---	---	---	0-14	---